

OPERATING SUMMARY

SOUTH PEEL

WATER POLLUTION CONTROL SYSTEM

CLARKSON

WATER POLLUTION CONTROL PLANT

TD227
S68
C537
W38
1974
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CLARKSON
WATER POLLUTION CONTROL PLANT

MINISTRY OF THE ENVIRONMENT

1974 ANNUAL OPERATING SUMMARY

prepared by

Plant Performance Unit

TECHNICAL SERVICES BRANCH

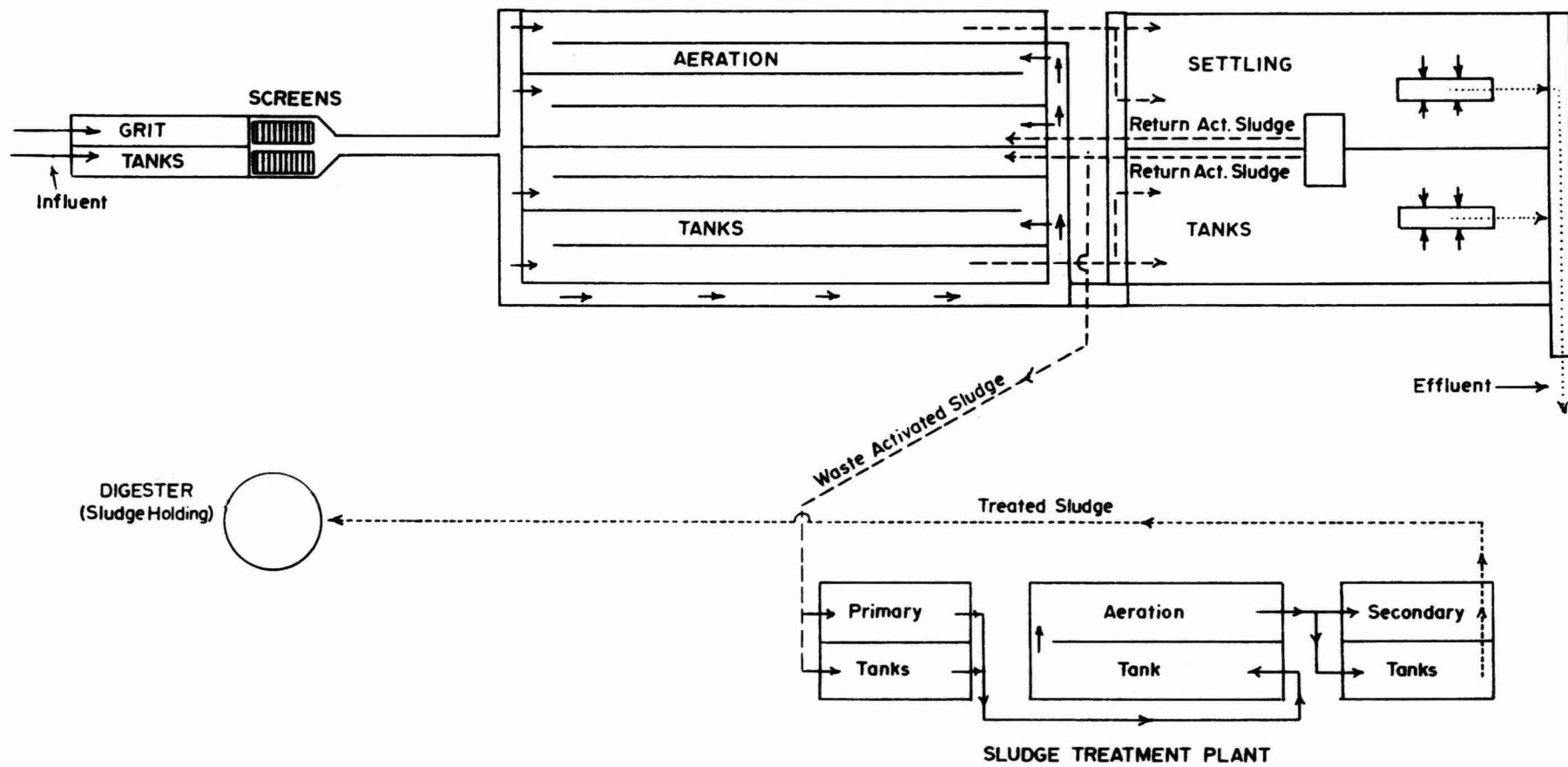
T. Cross, Director

TD227
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CLARKSON WPCP

DESIGN DATA

PROJECT: Clarkson WPCP

PROJECT NO: 1-0053-66

TREATMENT: Extended Aeration

DESIGN FLOW: 10 mgd

BOD: Raw Sewage 222 mg/l

SS-Raw Sewage 250 mg/l

PRIMARY TREATMENT

SCREENING

Type: Mechanical

GRIT TANKS

Size: Two, (each) 21' x 97.4' x 13.9' awl
(177,400 I.G. each)

Retention: (each) 26 min.

SECONDARY TREATMENT

AERATION TANKS

Type: four-pass, rectangular

Size: two, each pass 20.25' x 312' x 15' awl
(4,731,000 I.G. total)

Retention: 11.4 hr

BLOWERS

Size : two (each) 39,000 cfm

SECONDARY SEDIMENTATION

Size: two, each 250' x 80' x 12' awl
(2,995,000 I.G. total)

Retention: 7.2 hr

SLUDGE PUMPS

Recirculating

Size: three, (each) 6,700 gpm

Wasting

Size: Four, (each) 600 gpm

CHLORINATORS

Type: Fisher and Porter

Size: Two, each 2,000 lb/day max.

SLUDGE HANDLING

SLUDGE TREATMENT PLANT

PRIMARY SEDIMENTATION

Size: Two, each 60' x 14' x 10'
(105,000 I.G. total)

AERATION

Type: two-pass, diffused air

FLEXOFUSERS

Size: One, 120' x 18' x 11.25' each pass
(303,000 I.G.)

Air Supply: 3 blowers, 1400 cfm, 1700 cfm,
2150 cfm (7.5 psi)

SECONDARY SEDIMENTATION

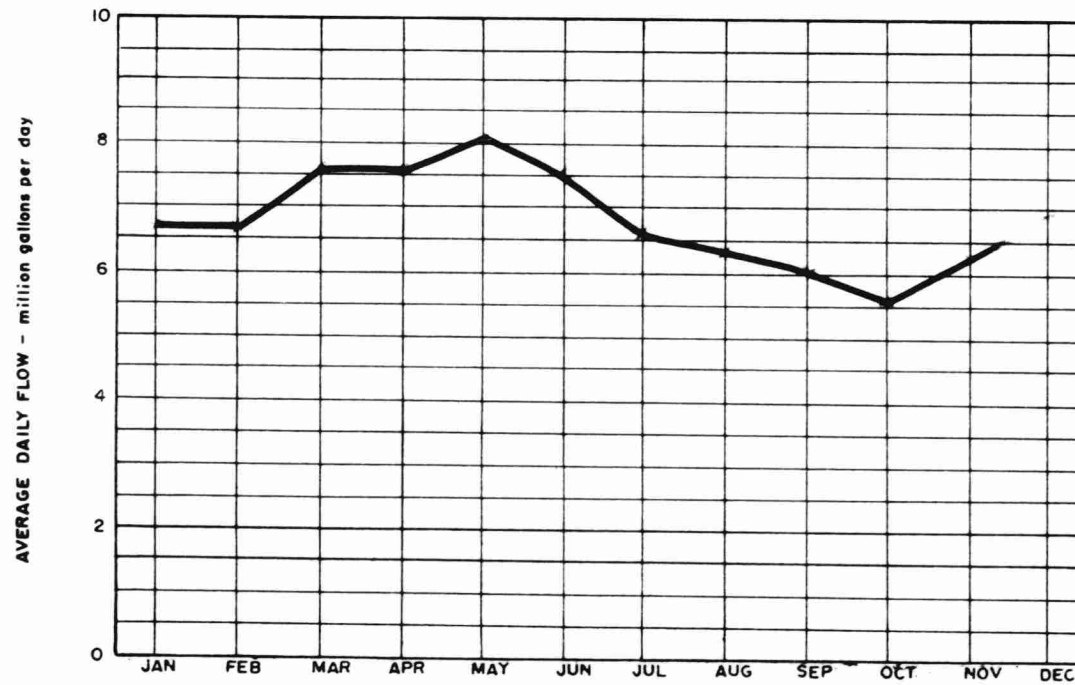
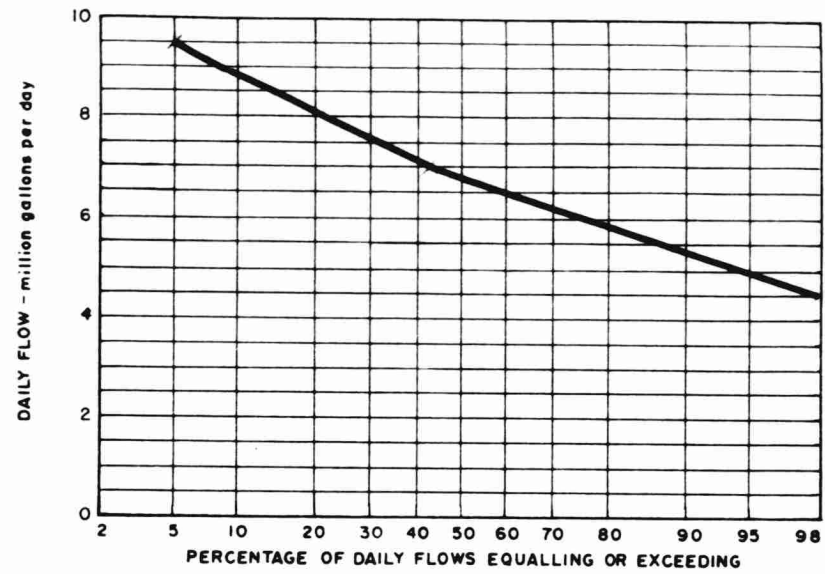
Size: two, 74' x 14' x 10.75'
(137,000 I.G. total)

DIGESTER: (used as holding tank)

Type: concrete fixed-roof gas mixing

Size: One, 55' dia x 20' swd
(52,400 ft³)

PROCESS DATA FLOWS

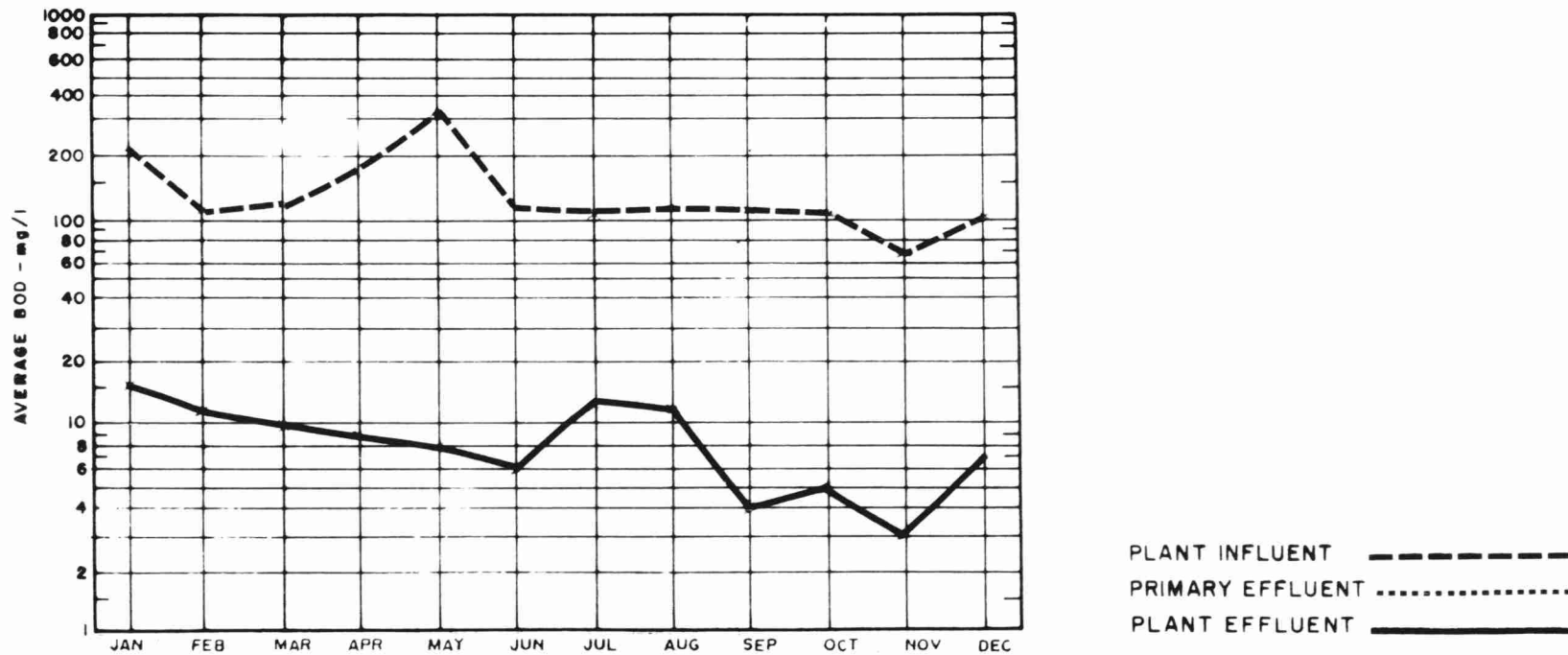
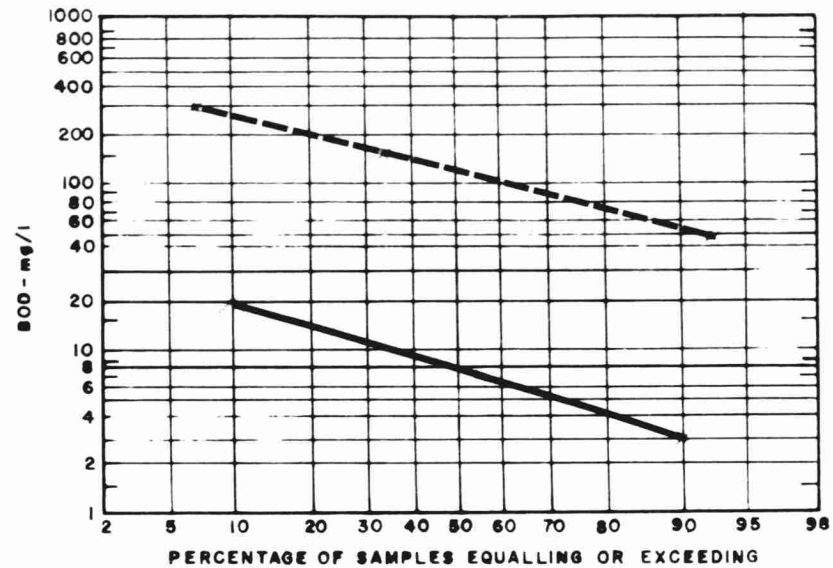


DESIGN CAPACITY - - - - -

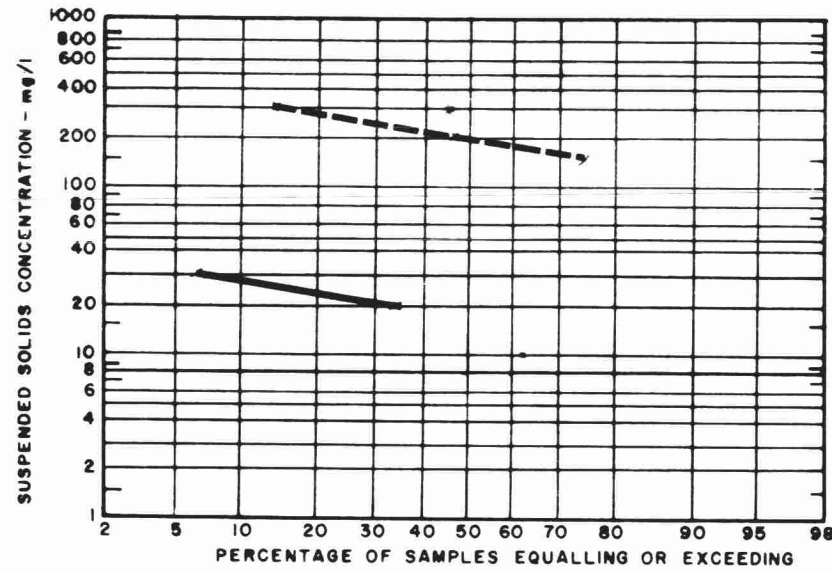
PLANT PERFORMANCE

MONTH	FLOWS			BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				PHOSPHORUS	
	TOTAL FLOW	AVERAGE DAY	MAXIMUM DAY	INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT
	million gallons	mil. gal	mgd	mg/l	mg/l	%	10 ⁵ pounds	mg/l	mg/l	%	10 ⁵ pounds	mg/l P	mg/l P
JAN	208	6.7	9.8	203	16	92	3.9	240	18	93	4.6	6.3	4.3
FEB	189	6.7	10.7	110	12	89	1.9	130	40	69	1.7	6.1	2.8
MAR	237	7.6	9.9	120	10	92	2.6	200	70	65	3.1	5.5	4.8
APR	230	7.7	10.5	170	9	95	3.7	200	5	98	4.5	6.3	4.0
MAY	255	8.2	11.6	318	8	97	7.9	463	17	96	11.4	7.4	4.5
JUNE	228	7.6	10.7	130	6	95	2.8	165	15	91	3.4	4.8	2.9
JULY	206	6.6	7.1	118	13	89	2.2	169	18	89	3.1	5.8	3.8
AUG	195	6.3	7.3	130	11	92	2.3	270	18	93	4.9	16.4	9.1
SEPT	182	6.1	10.7	123	4	97	2.2	576	16	97	10.2	19.5	6.2
OCT	173	5.6	6.5	118	5	96	2.0	150	20	87	2.3	7.2	4.5
NOV	188	6.3	8.8	68	3	96	1.2	180	15	92	3.1	7.0	1.0
DEC	215	6.9	8.3	108	7	94	2.2	155	15	90	3.0	6.8	2.0
TOTAL	2506	-	-	-	-	-	34.1	-	-	-	63.6	-	-
AVG.	209	6.9	MAXIMUM 11.6	145	9	94	2.8	273	19	93	5.3	9.5	4.7
No. of Samples	-	-	-	29	29	-	-	29	27	-	-	29	28

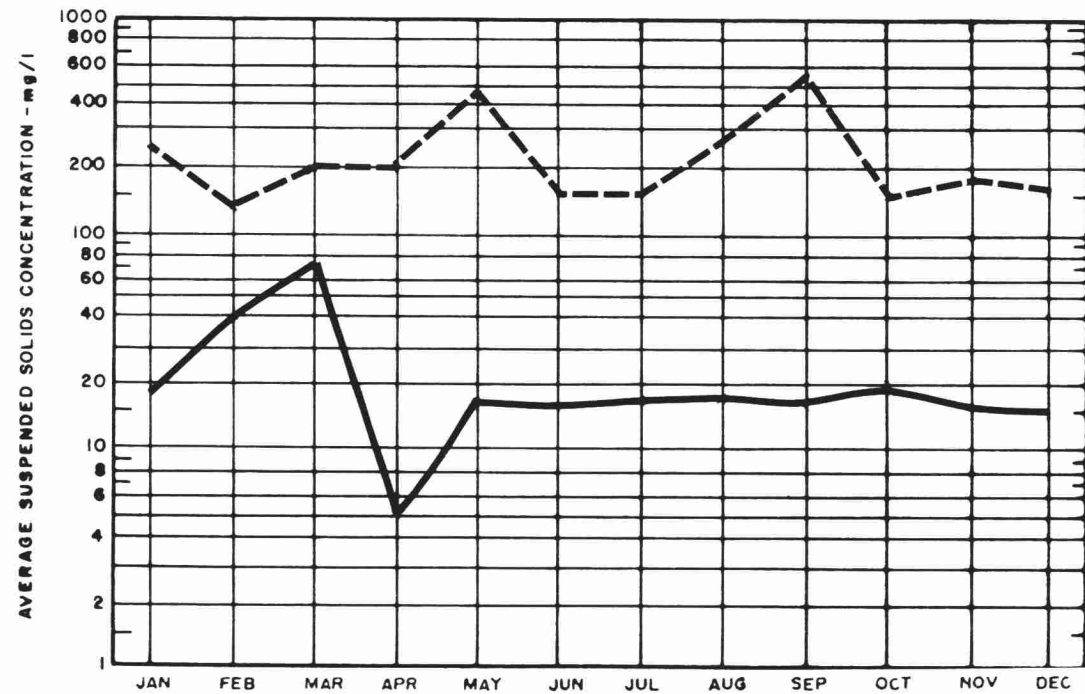
BIOCHEMICAL OXYGEN DEMAND



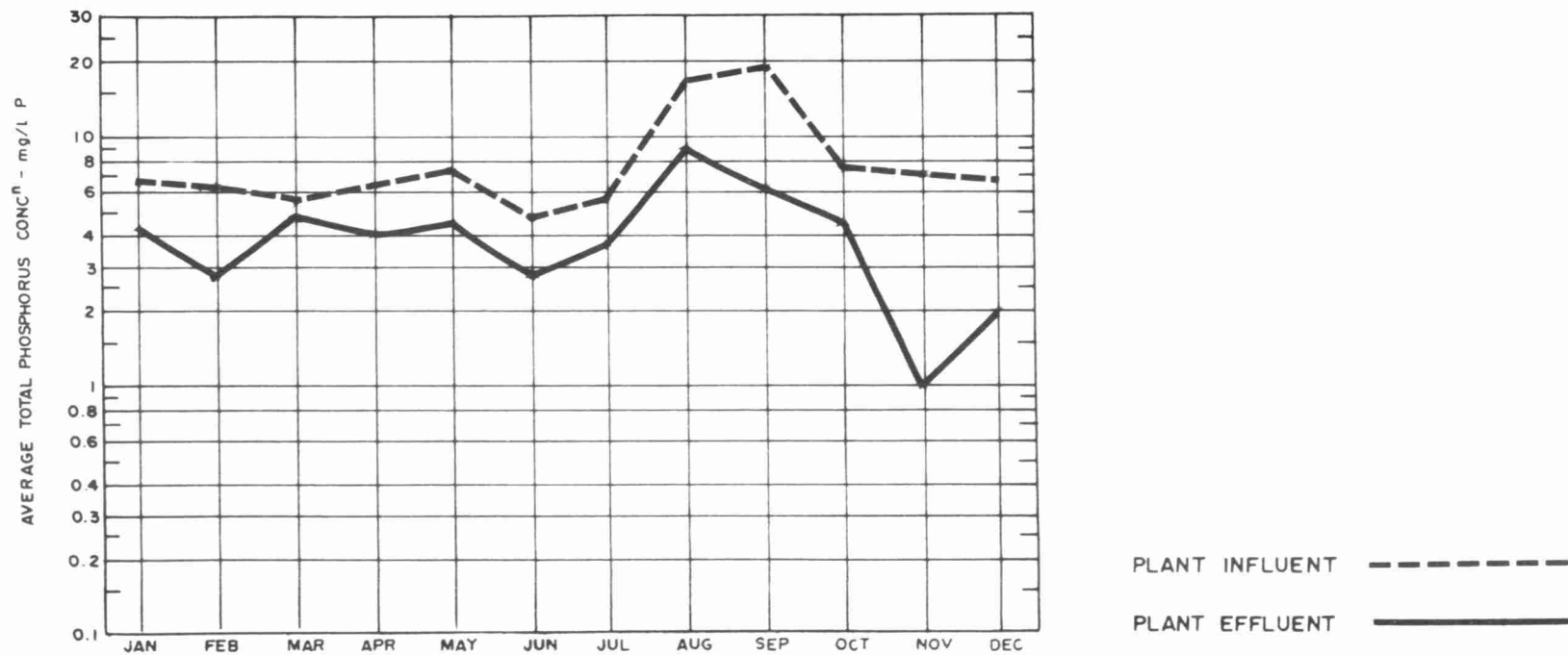
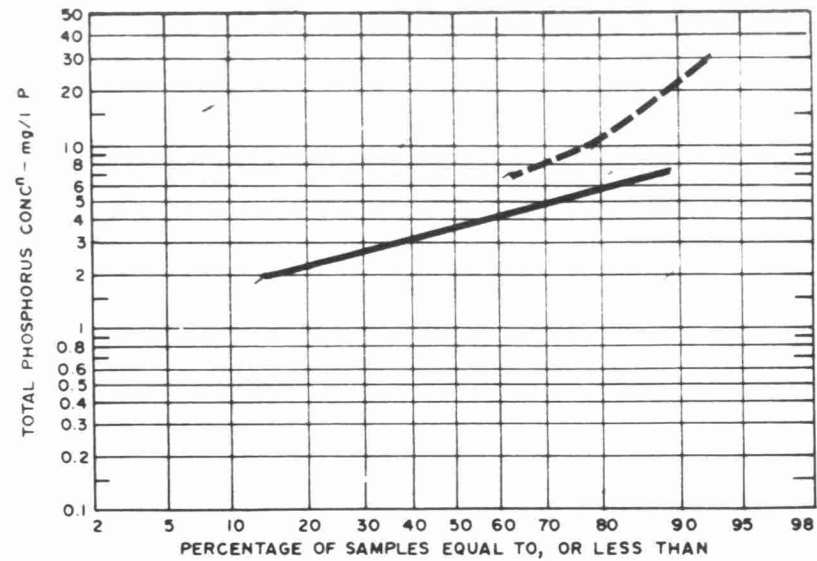
SUSPENDED SOLIDS



PLANT INFLUENT - - - - -
 PRIMARY EFFLUENT
 PLANT EFFLUENT —————



PHOSPHORUS



TREATMENT DATA

MONTH	GRIT	CHLORINATION		AERATION			WASTE SLUDGE			AEROBIC DIGESTER			
	QUANTITY REMOVED cubic feet	CL ₂ USED 10 ³ pounds	AVG. DOSAGE mg/L	MLSS CONC mg/L	F/M day ⁻¹	AIR USED 1000 ft ³ lb BOD	QUANTITY 10 ⁵ gallons	SUSPENDED SOLIDS mg/L	VOL. SOLIDS %	QUANTITY REMOVED 10 ⁵ gallons	SUSPENDED SOLIDS mg/L	VOL. SOLIDS %	AMOUNT HAULED cubic yards
JAN	70	12	6.0	1900	.15	1.1	.45	4600		2.15			1276
FEB		13	7.0	2200	.07	2.4	.53	5200		2.60			1540
MAR		14	5.8	3600	.05	2.1	15.60			2.54			1512
APR		13	5.8	4000	.07	1.7	13.17			4.01			2380
MAY	378	25	5.0	4400	.13	.7	5.00	14000		3.34			1978
JUNE	70	10	4.4	4200	.05	1.6	4.44	16000		3.39			2016
JULY	550	6	3.0	4500	.04	1.8	7.86	16000		4.37			2604
AUG		5	2.5	4600	.04	2.3	7.02	17000		6.14			3640
SEPT	40	5	2.9	4700	.03	2.8	4.81	14000		5.00			2968
OCT		7	4.1	8000	.02	3.1	11.25	17000		5.63			3340
NOV		7	3.8	8400	.01	8.4	18.76	17000		7.08	41000		4202
DEC		6	2.7	7300	.02	5.4	14.12	19000	52	4.77	83000		2828
TOTAL	1108	123	-	-	-	-	103.01	-	-	51.02	-	-	30284
AVG.	.4 cu. ft/mil gal	10	4.9	4800	.06	2.8	8.58	14000	52	4.25	62000		2524

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